



U.S. Fish & Wildlife Service

Wallkill River and Shawangunk Grasslands National Wildlife Refuges

Planning Update, Winter 2002

Planning Process

The U.S. Fish and Wildlife Service is in the midst of a planning project for Wallkill River and Shawangunk Grasslands National Wildlife Refuges. The resulting document will be a Comprehensive Conservation Plan and Environmental Assessment (CCP/EA), which will include our strategies for preserving wildlife habitat values, protecting rare, threatened and endangered species, and providing priority public uses on refuge lands.

We will complete a draft CCP/EA in 2002 which we will distribute for public review and comment. Until then, we will be evaluating four management alternatives, including the "Service's Proposed Alternative," and comparing their environmental benefits and consequences. Highlights of these draft alternatives are presented in the attached table (*see pages 3 - 15*).

We will also complete compatibility determinations for all proposed public uses. Compatibility determinations ensure that refuge uses do not interfere with refuge purposes or the mission of the National Wildlife Refuge System.

State Agency Involvement

Personnel from the New Jersey Department of Environmental Protection (NJDEP) and the New York State Department of Environmental Conservation (NYSDEC) are serving as members of our core planning team. Their involvement insures our respective agencies will collaborate on land and resource protection in the Wallkill River Valley.

We plan to work with these agencies even more in the future – you will see them mentioned frequently in proposed strategies for each alternative. In addition, we will be consulting with our many conservation partners for technical information.



Wood duck. USFWS photo.

Refuge Goals

We have revised refuge goals to better organize our objectives and strategies.

Goal 1: Protect and enhance habitats for federal trust species and other species of special management concern, with particular emphasis on breeding grassland-dependent migratory birds and wintering raptors.

Goal 2: Manage to enhance regionally significant ecological communities, including large grassland and wetland complexes.

Goal 3: Promote actions which contribute towards a healthier Wallkill River.

Goal 4: Continue land acquisition and land management partnerships to support accomplishment of species, habitat, and ecosystem goals.

Goal 5: Increase opportunities for environmental education and other priority, wildlife-dependent public uses.

Goal 6: Cultivate an informed and conservation-educated public that works to support the goals of the refuges and the mission of the National Wildlife Refuge System.

Goal 7: Provide refuge staffing, operations, and maintenance support to effectively accomplish refuge purposes and legal mandates.

Refuge News



Come and see our headquarters! Our office is located in a renovated 150 year old farmhouse on Rte. 565 in Sussex, New Jersey. USFWS photo



Direct questions and comments to:

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Refuge News

New Office Dedication: with renovation of the former Dagmar Dale farm complete, we held the official dedication ceremony for the new Wallkill River Refuge Headquarters on Sunday, September 23, 2001. The festivities, which were attended by more than 600 people, included a keynote address by a representative of Congresswoman Marge Roukema, wildlife exhibits, nature tours, and hands-on demonstrations.

Land Acquisition: the refuge continues to actively acquire land from willing sellers within the approved acquisition boundary. This year, approximately 105 acres will be added to the refuge.

Personnel: Steve Kahl has recently joined the Wallkill River Refuge staff as Deputy Refuge Manager. He transferred from Iroquois Refuge in New York and brings his expertise in neotropical migratory bird management. Steve will be the principal manager for the Shawangunk Grassland Refuge. The former Assistant Refuge Manager, Jeff Shryer, has been promoted to Refuge Manager at Canaan Valley Refuge in West Virginia.

Also new to the refuge is Mike Durfee, a Prescribed Fire Specialist. While stationed at the refuge, Mike will assist national wildlife refuges in New York, New Jersey, and Pennsylvania with implementing their fire programs.

Public Use: the 2.7 mile Dagmar Dale Trail, which originates at the refuge headquarters, has recently been completed and is open to the public from sunrise to sunset. Also new this year is a winter bow season, which will complement the existing deer hunting program.

Fire Management Plan

We will soon complete a fire management plan for the Wallkill River Refuge. The plan will guide implementation of a prescribed fire program to achieve certain habitat management goals. The plan also calls for suppression of wildfires on the refuge.

The refuge will conduct a 30-acre prescribed burn on one grassland tract in early 2002, and will be preparing a specific plan for this burn. Please let us know if you would like to be mailed copies of updated fire management or burn plans.

Highlights of the Draft Alternatives

The following table shows how our four alternatives will address a few key issues identified by the planning team and the public. Alternative A is the "No Action" alternative, which represents our current management. Alternative C is the "Service's Proposed Alternative," representing our recommended actions and strategies.

The draft CCP/EA will address more issues than we have included here. The plan will fully develop the four alternatives, identifying objectives and strategies for meeting each of our goals.

Mailing List

Please contact us if you wish to be removed from our mailing list.

Comprehensive Conservation Plan

Highlights of the Draft Alternatives

Issue	Alternative A <i>Current Management</i>	Alternative B	Alternative C <i>The Service's Proposed Alternative</i>	Alternative D
<i>How will Refuge staff manage for the federally threatened bog turtle in the Wallkill River Watershed?</i>	<p>Continue with intent to acquire one known bog turtle site on private land within approved refuge acquisition boundary. A second site is already protected on the refuge.</p> <p>Continue to actively control purple loosestrife at refuge bog turtle site using mechanical and chemical treatments, and biological control.</p> <p>Continue annual coordination with Recovery Team, NYSDEC, NJDEP, and other conservation partners in identifying and prioritizing protection strategies.</p>	<p>In addition to Alternative A:</p> <p>By 2004, in a controlled experiment, use goats or other grazing livestock to manage purple loosestrife on refuge bog turtle site.</p> <p>By 2004, work with partners to identify and provide long term protection to at least 10 bog turtle Population Analysis Sites (PAS) . This protection will meet the Recovery Plan objective for the Wallkill River sub-unit. Identify and map, in GIS database, all suitable nesting and hibernating habitats within the 10 PAS's.</p> <p>By 2005, field survey all suitable Refuge habitat sites for presence of bog turtles, using Service protocol. Where bog turtles are present, annually collect information to establish population and movement patterns.</p> <p>By 2006, develop a site management and monitoring plan for occupied sites on the refuge. The plan would stipulate actions needed to sustain and/or improve habitat for bog turtles.</p>	<p>In addition to Alternative B:</p> <p>By 2005, evaluate pond by refuge office to determine if natural hydrology could be restored to benefit bog turtle; implement if feasible.</p> <p>By 2007, develop site management and monitoring plans for 5 potential sites on-refuge that could support a reintroduction of bog turtles with active management (e.g., manipulating red maple swamps, simulating beaver flooding regimes, or removing beaver where they are flooding active sites).</p> <p>In addition to controlled grazing, experiment with girdling saplings and hand brush cutting. Conduct annual monitoring according to Recovery Plan protocol.</p> <p>By 2007, hire a Private Lands Specialist, who will also work with NJDEP, Ecological Services and conservation partners to cooperatively manage bog turtle sites on private lands.</p> <p>By 2015, cooperate with partners to identify and provide long term protection for up to 23 PAS's within identified Focus Areas. This includes known, occupied bog turtle sites, connecting travel corridors, and significant wetland complexes.</p>	<p>In addition to Alternative C:</p> <p>By 2008, work with adjacent private landowners to actively restore degraded bog turtle sites and/or restore historic.</p>

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Highlights of the Draft Alternatives

Issue	Alternative A <i>Current Management</i>	Alternative B	Alternative C <i>The Service's Proposed Alternative</i>	Alternative D
<i>How will we manage regionally significant grassland habitat at Wallkill River Refuge?</i>	<p>The refuge currently includes approximately 1,500 acres of grasslands and old field habitat.</p> <p>Continue to actively maintain approximately 530 acres of grassland habitat, including 300 cooperatively hayed acres, to benefit grassland dependent migratory birds. Maintain habitat through mowing, haying, and brush-hogging.</p> <p>Continue to restore all former corn fields to native grasslands.</p> <p>Continue breeding landbird surveys and continue to cooperate in Regional grassland breeding bird study.</p> <p>Continue the acquisition of grasslands from willing sellers within the approved refuge acquisition boundary.</p>	<p>In addition to Alternative A:</p> <p>By 2002, conduct midwinter raptor surveys, and monitor small mammal populations to the extent practicable.</p> <p>By 2003, develop a Habitat Management Plan and Monitoring and Inventory Plan, with emphasis on grasslands, to maintain the existing diversity of nesting and wintering grassland birds. Use Partners in Flight Landbird Plan (Area 17) for grassland bird priorities and recommended management techniques.</p> <p>Expand active grassland management program to 850 acres, emphasizing large (> 150 acre) fields or complexes of fields. Maintain grasslands through chemical, biological, mechanical, or prescribed fire treatments, or through livestock grazing.</p> <p>Maintain existing opportunities for cooperative haying and livestock grazing with local farmers, once criteria have been set to ensure haying and grazing are conducted to benefit nesting or wintering grassland birds.</p> <p>Identify small tracts of grassland that will be allowed to succeed to shrubs and forests, especially where they exist within 100 meters of the Wallkill River.</p>	<p>In addition to Alternative B:</p> <p>By 2006, develop a grasslands management demonstration area on the refuge.</p> <p>Private Lands Specialist (to be hired by 2007, <i>see page 3</i>) will provide technical assistance to landowners on how to manage grasslands and other habitats for wildlife.</p>	<p>Management for grassland habitats would not be emphasized in this alternative.</p> <p>Management emphasis would be on restoring natural hydrology to fields in the 100 year floodplain and allow natural succession of native vegetation to occur. This would result in more fields seasonally flooded. Some fields would permanently remain as emergent wet meadows, but most would eventually succeed to shrublands and then to forested wetlands.</p> <p>In upland areas, natural succession of native vegetation would occur. The only exceptions would be a few small fields maintained as openings for wildlife observation or openings maintained for bog turtle habitat.</p>

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Issue	Alternative A <i>Current Management</i>	Alternative B	Alternative C <i>The Service's Proposed Alternative</i>	Alternative D
<i>How will we manage regionally significant wet meadow-grassland habitat at Shawangunk Grasslands Refuge?</i>	<p>Continue to actively maintain approximately 100 acres around former runways and taxiways as a cool season grassland-wet meadow complex to benefit grassland dependent migratory birds. Maintain habitat through mowing and brush-hogging.</p> <p>Continue breeding grassland bird, woodcock, and mid-winter raptor surveys.</p>	<p>In addition to Alternative A:</p> <p>By 2003, develop a Habitat Management Plan and Monitoring and Inventory Plan, with emphasis on grasslands, to maintain the existing diversity of nesting and wintering grassland birds. Utilize Partners in Flight Landbird Plan (Area 17) for grassland bird priorities and recommended management techniques.</p> <p>Expand active grassland management program to 250 acres. Maintain grasslands through chemical, biological, and mechanical treatments. Eliminate all trees in excess of 1 tree/10 acres to maximize grasslands, while also maintaining some tree perches for raptors.</p> <p>Pursue opportunities for cooperative haying with local farmers on refuge lands. Prescribed fire and livestock grazing may occur on an experimental basis, once criteria have been set to ensure the activities can occur to benefit nesting or wintering grassland birds.</p> <p>By 2003, begin to conduct annual reptile and amphibian surveys according to Regional protocol.</p> <p>By 2004, survey refuge for rare plants identified in Hudsonia Report (1992).</p> <p>By 2005, pursue a contract to study current and potential hydrology of the refuge, and determine whether wetlands are contaminated by remnants of former military activity on the site.</p>	<p>In addition to Alternative B:</p> <p>By 2007, further expand active grassland management program to 400 acres.</p> <p>Also by 2007, remove or break up concrete runways and taxiways, except as needed for administrative purposes, to create an additional 30 acres of grassland habitat.</p> <p>Private Lands Coordinator (<i>see page 3</i>) will provide technical information to landowners on how to manage grasslands to benefit wildlife.</p> <p>By 2009, develop a grasslands demonstration management area on the refuge.</p> <p>Conduct grassland, landbird, and midwinter raptor bird surveys on adjacent private lands with permission from landowners.</p>	<p>Allow native vegetation succession and natural hydrologic flow to occur, resulting in a shrubland in the near term and a mature northern hardwood forest over the long term.</p>

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<i>How will we manage forested habitat at Wallkill River Refuge?</i>	<p>No active management is occurring.</p> <p>The refuge currently includes approximately 1,500 acres of forest.</p> <p>Continue with annual landbird surveys in forested habitats on the refuges.</p> <p>Continue to acquire forested land from willing sellers within approved refuge acquisition boundary.</p>	<p>By 2003, develop a Habitat Management Plan and Monitoring and Inventory Plan for refuge lands to maximize forest health and maintain forest-dependent species on the existing 1,500 acres of refuge forest. Utilize the Partners in Flight Plan (Area 17) for forested bird priorities and recommended management techniques.</p> <p>Plan would also:</p> <ul style="list-style-type: none"> • Include an inventory and monitoring strategy on refuge forest lands to determine species composition, age, and health of forest stands and use of forests by forest-dwelling nesting and migratory birds, including raptors and non-game migratory birds of management concern. • Evaluate need for forest management in existing forest patches to maintain forest health in these areas (e.g. selective logging, pest control, and prescribed fire) and write Forest Management, Monitoring and Evaluation Plans to implement recommendations. • Evaluate opportunities to allow small fields (< 10 acres) to revert to forest, especially where they exist within 100 meters of the river or are contiguous with larger (> 100 acre) forest patches. <p>Continue to acquire forested land from willing sellers within approved refuge acquisition boundary.</p>	<p>In addition to Alternative B:</p> <p>By 2003, begin restoration of a minimum 100 meter forested buffer along most of the refuge's river corridor. This would increase refuge forest areas from approx. 1,500 acres to approx. 2,500 acres.</p> <p>By 2004, monitor wooley adelgid outbreaks on refuge and implement control methods, where feasible.</p> <p>By 2004, develop a site management plan to sustain the Atlantic white cedar swamp.</p> <p>Private Lands Specialist (<i>see page 3</i>) will work with private landowners to restore and manage riparian forested areas along the Wallkill River and its tributaries.</p> <p>Cooperate with partners to identify and provide long term protection for forested lands, with an emphasis on contiguous ridgetop and hillside forests next to the refuge, and any tracts (> 500 acres) that would enhance a floodplain buffer along the river.</p>	<p>In addition to Alternative C:</p> <p>By 2005, develop a river restoration plan for the refuge to restore natural hydrology and allow fields in the 100-year flood plain to naturally succeed to forest.</p> <p>Promote and restore natural processes historically shaping these forested landscapes to the extent possible, including flooding and natural, endemic levels of native insects and pathogens. One result will be increased seasonal flooding over much of the refuge and adjacent lands.</p> <p>Manage existing refuge lands and encourage the management of private lands to develop larger, contiguous forested areas (> 100 acres).</p>

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Highlights of the Draft Alternatives

Issue	Alternative A, <i>Current Management</i>	Alternative B,	Alternative C <i>The Service's Proposed Alternative</i>	Alternative D
<i>How will we manage non-forested habitat at Wallkill River Refuge?</i>	<p>By 2002, initiate plan for moist soil management project on the former Liberty Sod Farm, approximately 350 acres.</p> <p>Annually maintain and monitor the created seasonal wetland off of Bassetts Bridge Road (Rt. 641).</p> <p>Continue waterfowl surveys to evaluate waterfowl response to management.</p> <p>Continue to control purple loosestrife on 6 sites using biological control.</p> <p>Continue to map drainage ditches along River corridor within refuge.</p> <p>Continue to annually conduct secretive marsh bird surveys on the refuge.</p> <p>Continue to survey vernal pool and associated amphibian populations on the refuge.</p>	<p>In addition to Alternative A:</p> <p>By 2003, develop a Habitat Management Plan and Monitoring and Inventory Plan for the refuge. At least 535 acres of newly restored and existing non-forested wetland habitats would be sustained for spring migratory waterfowl and migrating shorebirds.</p> <p>Plan would establish how to inventory and evaluate refuge wetlands and aquatic resources and would also prioritize wetland projects.</p> <p>Plan would also identify opportunities for additional refuge wetland restoration and creation projects, such as pothole excavation, plugging drainage ditches, and installing water control structures on abandoned railroad beds. We would also evaluate the existing drainage ditch network for future restoration of natural hydrology.</p> <p>By 2004, finalize Memorandum of Understanding (MOU) with mosquito control commission that ensures operations will have minimal impact on refuge wildlife.</p> <p>By 2005, implement water quality monitoring program on refuge wetlands and Wallkill River. Incorporate recommendations into Habitat Management Plan.</p>	<p>In addition to Alternative B:</p> <p>Private Lands Specialist (<i>see page 3</i>) will provide technical assistance to landowners and municipalities to raise awareness of human impacts to significant wetlands (eg. groundwater withdrawal), and importance of vernal pools. Work with landowners to conduct wetlands inventories and riparian restoration.</p> <p>By 2008, develop wetlands restoration demonstration site on the refuge.</p>	<p>In addition to Alternative C:</p> <p>By 2007, conduct vernal pool survey on all adjacent, suitable lands (with permission of landowners).</p> <p>By 2008, identify and map threats to water quality within the Wallkill River Watershed.</p> <p>Beginning in 2008, conduct water quality monitoring on all major tributaries to the Wallkill River with assistance from conservation partners.</p> <p>Identify opportunities to restore the former hydrology of the area (e.g. fill or reconfigure drainage ditches), including the possible restoration of a portion of the Wallkill River in Warwick, New York.</p>

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<i>How will we manage invasive plant species at Wallkill River Refuge?</i>	<p>Current program emphasizes control of purple loosestrife and <i>Phragmites</i>. Purple loosestrife control will continue to be a management priority at bog turtle sites.</p> <p>Continue to release and monitor beetles and weevils as biological control agents for purple loosestrife and determine effects of past releases at both refuges.</p> <p>Continue to work with Cornell University scientists to monitor effects of the <i>Rhizodra</i> larvae on <i>Phragmites</i> at Wallkill River Refuge.</p> <p>Continue to mow field edges at Wallkill River Refuge to prevent spread of <i>Phragmites</i>, and reduce monotypic stands of reed canary grass by pothole wetland restoration projects.</p>	<p>In addition to Alternative A:</p> <p>By 2003, begin to map and monitor spread of all invasive plant species on the refuge annually, emphasizing purple loosestrife. Other species of concern include <i>Phragmites</i>, knotweed, garlic mustard, Canada thistle, multiflora rose, and reed canary grass.</p> <p>By 2004, develop Habitat Management Plan and Inventory and Monitoring Plan with specific strategies for controlling invasive plant species. Control of purple loosestrife is a priority where it is impacting bog turtle sites.</p> <p>Evaluate all ground-disturbing management actions for their potential to facilitate the spread of invasive plant species.</p> <p>Utilize mechanical, chemical, prescribed fire, livestock grazing, and/or biological control agents as appropriate, to control invasive plants on the refuge. An experimental design approach may be warranted to evaluate the best combination of techniques for each species.</p>	<p>In addition to Alternative B:</p> <p>By 2006, develop an active beetle nursery program to propagate loosestrife beetles for release on the refuge.</p> <p>Beginning in 2007, map and monitor spread of plants adjacent to the reuge.</p> <p>Beginning in 2007, Private Lands Specialist (see page 3) would cooperate with Federal, State and local partners to provide technical information about invasive species and their control to private landowners within and adjacent to the Wallkill River Refuge acquisition boundary.</p>	<p>In addition to Alternative C:</p> <p>Beginning in 2008, release beetles on adjacent private lands, with landowner permission, to control purple loosestrife.</p> <p>Monitor release sites to determine effects of releases.</p> <p>Actively assist in restoration and control of loosestrife through beetle release, and sharing equipment and personnel with adjacent private landowners.</p>
<i>How will we manage invasive plant species at Shawangunk Grasslands Refuge?</i>	<p>Continue to reduce purple loosestrife invasion, and improve native grassland habitats, through mowing and brush-cutting.</p> <p>Continue to cooperate with Cornell University scientists to monitor beetles (<i>Galeruella</i>) released in 1997 and weevils (<i>Hylobius</i>) released in 1995 to control purple loosestrife.</p>	<p>In addition to Alternative A:</p> <p>by 2004, begin to map and monitor spread of all invasive plant species on the refuge annually, emphasizing purple loosestrife.</p> <p>Utilize mechanical, chemical, prescribed fire, livestock grazing, and/or biological control agents as appropriate, to control invasive plants on 100 acres/year on the refuge. An experimental design approach may be warranted to evaluate the best combination of techniques for each species.</p>	<p>In addition to Alternative B:</p> <p>Expand invasive plant program to actively manage at least 200 acres/year.</p>	<p>Same as Alternative C.</p>

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Highlights of the Draft Alternatives

Issue	Alternative A <i>Current Management</i>	Alternative B	Alternative C <i>The Service's Proposed Alternative</i>	Alternative D
What <i>animal control measures</i> will be implemented for target species at Walkill River Refuge?	<p><i>Resident Canada Geese</i></p> <p>Conduct limited waterfowl surveys on refuge lands to determine location of Canada goose nests.</p> <p>Addle Canada goose eggs on refuge to prevent them from hatching.</p> <p>Actively manage resident Canada goose populations by allowing hunting during the winter resident season and regular waterfowl season.</p> <p><i>Deer</i></p> <p>Actively manage white-tailed deer populations through refuge hunting program.</p> <p><i>Furbearers</i></p> <p>Actively manage beaver and muskrat populations at the former Liberty Sod Farm through the issuance of trapping permits to licensed trappers and/or transplanting problem animals.</p> <p><i>Mammalian Predators</i></p> <p>No active management.</p>	<p>By 2004, develop an integrated Animal Population Management Plan with details on managing the species below.</p> <p><i>Resident Canada Geese</i></p> <p>Open the refuge for fall resident Canada goose hunting to further reduce resident goose populations.</p> <p>Increase waterfowl surveys and egg addling along the Walkill River corridor.</p> <p><i>Mute Swans</i></p> <p>Lethal removal of mute swans on the refuge and addling of eggs to limit production.</p> <p><i>Deer</i></p> <p>Actively manage white-tailed deer populations through refuge hunting program.</p> <p><i>Furbearers</i></p> <p>Inventory and monitor beaver populations and movements and impacts to habitat.</p> <p>Investigate non-lethal means of addressing beaver impacts in areas where they are flooding adjacent landowners or sensitive refuge habitats. Remove problem animals when necessary.</p> <p><i>Mammalian Predators</i></p> <p>Monitor populations of migratory bird and bog turtle predators, such as minks, raccoons, skunks, foxes, and coyotes. Determine predator population levels that result in adverse impact on migratory bird and bog turtle production and recruitment.</p>	<p>In addition to Alternative B:</p> <p><i>Resident Canada Geese</i></p> <p>Remove adult geese, as necessary, during molting season.</p> <p>Provide technical information to adjacent private landowners on methods to discourage resident Canada geese.</p> <p>Conduct surveys on adjacent lands, with landowner permission.</p> <p><i>Deer</i></p> <p>Work with respective state wildlife agencies to develop a comprehensive deer management plan including adjacent lands.</p> <p><i>Furbearers</i></p> <p>Provide information to private landowners on use of beaver tubes and other techniques to control flooding.</p> <p>Allow annual beaver and muskrat trapping on refuge lands where sensitive resources are being impacted or nearby landowners are complaining about damage and flooding from beaver activity. Trapping would only occur to accomplish specific management objectives.</p> <p><i>Mammalian Predators</i></p> <p>Actively manage predators through trapping and shooting if populations rise to a point where unacceptable damage to resources occurs.</p> <p>Annually evaluate the need for trapping to control predator populations affecting migratory birds. Lethally remove feral cats as necessary.</p>	Same as Alternative C.

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What hunting opportunities will be provided at Walkkill River Refuge?	<p>Continue to allow hunting for fall and winter bow, permit bow, permit muzzleloader, and permit shotgun deer seasons, pursuant to refuge regulations.</p> <p>Continue to allow spring turkey hunting, migratory waterfowl hunting, including a winter resident Canada goose hunting, pursuant to refuge regulations.</p> <p>Continue to provide a barrier-free hunting opportunity upon request pursuant to refuge and state regulations. Use of special parking areas and ATVs may be allowed.</p> <p>No species are stocked for hunting, nor is night hunting allowed.</p> <p>Only retrieving dogs are allowed on the refuge to assist with waterfowl hunting.</p>	<p>In addition to Alternative A:</p> <p>In 2002, begin Youth Hunting Program, according to state seasons.</p> <p>By 2003, additional hunting opportunities, subject to refuge regulations, would be provided in a migratory bird hunt (snipe, woodcock and coot) and fall turkey hunt. Retrieving, pointing, and flushing dogs, which must be under the control of the hunter at all times, would be allowed in support of hunting.</p> <p>By 2003, implement a user hunt fee program to help defray administrative costs.</p> <p>Night hunting would not be allowed on the refuge.</p>	<p>In addition to Alternative B:</p> <p>By 2003, allow rabbit and squirrel hunting in designated areas.</p> <p>Within 3 years of implementing CCP, determine whether actual hunter use and interest warrants administering each season proposed.</p>	<p>Same as Alternative B.</p>
What hunting opportunities will be provided at Shawangunk Grasslands Refuge?	<p>The refuge would remain closed to hunting.</p> <p>We would continue to prohibit stocking of any wildlife or game species.</p>	<p>Same as Alternative A.</p>	<p>By 2003, establish a fall archery deer season by permit, subject to refuge regulations. Implement a user fee program to help defray administrative costs.</p> <p>The safety of hunters and adjacent landowners will be the primary consideration in designing the hunt. We will also consider impacts to other refuge uses.</p> <p>We will consider limiting the number of permits issued, limiting the length of the hunting season, or restricting hunters to certain areas. Use of stands will be considered, as will accessible hunting opportunities.</p> <p>No night hunting would be allowed and we would continue to prohibit stocking of any wildlife or game species.</p> <p>Monitor interest and annual participation in the hunt, and by 2006, determine if the level of public use or interest warrants the administration.</p>	<p>In addition to Alternative C:</p> <p>By 2003, provide an additional migratory bird (woodcock only) hunting opportunity until December 1, using shotgun pellets only, by permit under refuge regulations and cooperatively administered with the New York State DEC.</p> <p>No winter or spring hunting seasons would occur to protect wintering raptors.</p> <p>Only retrievers, pointing and flushing dogs, which must be under the control of the hunter at all times, would be allowed.</p>

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<i>What fishing opportunities will be provided at Wallkill River and Shawangunk Grasslands refuges?</i>	<p>Maintain fishing access at Oil City Road (NY), Bassetts Bridge (NJ), and behind the refuge headquarters office in Sussex (NJ).</p> <p>Allow boat access at Oil City Road and Bassetts Bridge, and continue with planned access at Route 565 (NJ).</p> <p>Continue to allow anglers to fish from shoreline, which can be accessed by landing boats on the banks of the river or from designated footpaths.</p> <p>There are no quality fishing opportunities at Shawangunk Refuge.</p>	<p>In addition to Alternative A:</p> <p>By 2003, improve information available at fishing access sites to include the following refuge information: natural resources, refuge regulations, and other refuge fishing opportunities.</p> <p>By 2004, institute a voluntary creel/user census.</p> <p>By 2004, establish a fishery resource database.</p>	<p>In addition to Alternative B:</p> <p>By 2005, evaluate all ponds at both refuges for quality fishing opportunities, and open ponds to catch and release or catch and keep fishing if a quality program can be sustained. Sponsor youth/family fishing days at refuge ponds.</p> <p>After annual assessment of resource data and creel census, develop and implement management strategies to improve fisheries resource management and promote high quality fishing opportunities.</p> <p>By 2006, provide new fishing access on Scenic Lakes Road (with parking and restroom), and along Route 565 (with parking).</p> <p>By 2008, provide barrier-free fishing at Bassetts Bridge (boardwalk, platform, bathroom, and possible floating ramp and dock) and Scenic Lakes Road (boardwalk, platform).</p>	Same as Alternative B.

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What wildlife observation and photography opportunities will be provided at Wallkill River Refuge?	<p>Maintain Wood Duck Nature Trail, Liberty Loop Nature Trail, Dagmar Dale Nature Trail, and 3 canoe access locations on the Wallkill River. Trails are open to foot access, snowshoeing, and cross country travel.</p> <p>Maintain photography blind on Wood Duck Nature Trail.</p> <p>Complete plans for parking area for canoe access on Route 565.</p> <p>Access to the refuge is on designated trails only.</p>	<p>In addition to Alternative A:</p> <p>By 2002, construct a donation box at the Refuge Headquarters trail to help support trail maintenance.</p> <p>By 2004, hire an Outdoor Recreation Planner to implement the public use programs on both Wallkill River and Shawangunk Grasslands refuges.</p> <p>By 2004, begin monitoring visitor satisfaction of wildlife viewing and photography opportunities.</p> <p>By 2004, prepare photography and observation guide for visitors.</p> <p>By 2005, construct an observation platform and photography blind on the Liberty Loop Trail.</p> <p>By 2006, in conjunction with construction of a barrier-free fishing site at Bassetts Bridge, build a boardwalk to allow viewing of the river and the created wetland.</p> <p>By 2006, provide canoe access for wildlife observation on Wallkill River on Scenic Lakes Drive.</p>	<p>In addition to Alternative B:</p> <p>As necessary, prepare handouts that illustrate natural resources and wildlife of refuge and assist visitors in observing wildlife.</p> <p>By 2004, conduct regular, volunteer- or staff-led guided walks on refuge trails or the Lehigh and New England railroad bed. Also, allow conservation groups to access this railroad bed by special use permit to conduct education programs. All programs would be conducted to ensure they do not impact the active heron rookery.</p> <p>Upgrade the Lehigh and New England Railroad bed if the project will not impact the heron rookery and if refuge staffing increases. This trail was originally proposed in the Dec. 1997 Public Use EA and would be available year-round for priority public use activities.</p> <p>By 2005, prepare canoe trail access guide for Wallkill River.</p> <p>By 2005, host nature photography competitions in local areas. Establish photo display room at Wallkill Refuge office.</p> <p>By 2005, extend Wood Duck Trail approximately .75 miles with a footbridge over the Wallkill River.</p>	Same as Alternative A.

Comprehensive Conservation Plan

Highlights of the Draft Alternatives

Issue	Alternative A <i>Current Management</i>	Alternative B	Alternative C <i>The Service's Proposed Alternative</i>	Alternative D
<i>What wildlife observation and photography opportunities will be provided at Shawangunk Grasslands Refuge?</i>	<p>By 2002, provide parking and foot access to former runways. Skiing and snowshoeing will also be allowed on the runways only.</p>	<p>In addition to Alternative A:</p> <p>By 2004, expand the existing parking lot to accommodate up to 20 vehicles and at least one school bus.</p> <p>By 2006, prepare self-guided photography and observation literature for visitors.</p> <p>By 2007, build at least one observation platform and one photography blind to provide viewing opportunities of managed grassland habitats.</p>	<p>In addition to Alternative B:</p> <p>Beginning in 2003, prepare handouts that illustrate refuge's natural resources and wildlife and assist visitors in observing wildlife, as necessary.</p> <p>By 2003, establish photo library for future refuge office.</p> <p>Beginning in 2004, actively outreach to attract visitors to the refuge through use of media and local businesses, including</p> <ul style="list-style-type: none"> - local television - increased internet presence - local chambers of commerce <p>By 2005, host nature photography competitions in local area.</p> <p>By 2005, establish a 2-mile loop trail, utilizing sections of the existing runways.</p> <p>By 2009, conduct regular, volunteer- or staff-guided walks.</p>	Same as Alternative A.

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<i>How will we provide curriculum-based environmental education at Wallkill River Refuge?</i>	<p>Staff and volunteers occasionally conduct presentations on endangered species, wetlands, and waterfowl to local school children either at schools or on the refuge.</p> <p>Continue to provide training to local college interns.</p> <p>Continue to work with local Eagle Scouts, when staff are available.</p>	<p>In addition to Alternative A:</p> <p>By 2005, Expand involvement with local Scout programs.</p> <p>By 2005, Work with local middle-and-high school science clubs to increase awareness and career appreciation for wildlife and conservation biology.</p> <p>By 2005, develop resource library for community use.</p> <p>By 2007, sponsor a speaker series at the refuge for the public to learn about wildlife and nature.</p>	<p>In addition to Alternative B:</p> <p>By 2005, improve the Owens Station Education Center building and promote its use for community conservation events year round.</p> <p>By 2006, develop an outdoor classroom and curriculum based out of Owens Station Education Center and the Wallkill River Refuge HQ, and Shawangunk Grasslands Refuge.</p> <p>By 2007, strive to reach the most children by annually providing "Teach the Teacher" workshops. Conduct pre and post evaluations to plan for and determine success.</p>	<p>In addition to Alternative C:</p> <p>By 2007, expand intern program to include high school students with an interest in wildlife biology.</p> <p>By 2008, convert dormitories and main building at Owens Station Education Center into an environmental day camp, managed and guided by a private, non-profit organization.</p>
<i>How will we provide interpretative opportunities at Wallkill River Refuge?</i>	<p>Provide updated Wood Duck Trail brochure and interpretive signs.</p>	<p>By 2005, develop a refuge newsletter.</p> <p>By 2006, plan, fund, and install interpretive signs on all refuge nature trails and planned Bassetts Bridge handicapped fishing access boardwalk.</p> <p>By 2006, improve existing six kiosks.</p>	<p>In addition to Alternative B:</p> <p>By 2005, develop new interpretive materials, including a canoe trail guide, photography guides, and refuge trail guides.</p>	<p>Same as Alternative B.</p>

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Issue	Alternative A <i>Current Management</i>	Alternative B	Alternative C <i>The Service's Proposed Alternative</i>	Alternative D
<i>How will we provide curriculum-based environmental education and interpretive opportunities at Shawangunk Grasslands Refuge?</i>	<p>There is no environmental education program established for the refuge.</p> <p>Maintain the kiosk at the parking lot, updating information as necessary.</p> <p>Continue to provide interpretive programs on a request only basis when staff are available.</p>	<p>By 2003, conduct annual refuge tours for local business leaders and elected officials. Explain the Service mission, refuge purposes and goals, current activities, and highlight the refuge's contribution to the local community.</p> <p>By 2004, prepare new self-guided interpretive brochures, a new general refuge brochure, and a bird checklist.</p> <p>By 2005, engage the local Scout troop in refuge programs.</p> <p>By 2004, conduct 3 interpretive programs/year, and staff booths at local fairs and other community events.</p> <p>By 2005, contact at least 3 local schools to begin to develop curriculum-based programs using the refuge.</p> <p>By 2007, produce a refuge exhibit showcasing the military and cultural history of refuge lands.</p>	<p>In addition to Alternative B:</p> <p>By 2007, conduct at least one "Teach-the-teacher" workshop annually.</p>	<p>Encourage local school groups to visit refuges to implement or reinforce schoolroom education.</p> <p>By 2003, conduct annual Refuge tours for local business leaders and elected officials. Explain the Service mission, refuge purposes and goals, current activities, and highlight the refuge's contribution to the local community.</p> <p>By 2007, conduct at least one "Teach-the-teacher" workshop annually.</p>
<i>How will Refuge staff cultivate an informed, educated, involved, and conservation-minded public?</i>	<p>Participate in annual special events such as the Orange County Conservation Days and Earth Day.</p> <p>Continue to work with Bergen County Audubon Society under the "Audubon Refuge Keepers" program.</p> <p>Continue sponsorship of Conservation Post 19.</p> <p>Continue participation on Wallkill River Task Force and regional planning committees.</p> <p>Maintain 6 kiosks with up-to-date information about the refuge.</p> <p>Provide general refuge brochure, bird checklist, and other Service brochures.</p> <p>Maintain refuge webpage.</p>	<p>In addition to Alternative A:</p> <p>By 2004, hire an Outdoor Recreation Planner (<i>also referenced on page 13</i>) to implement public use program and conduct outreach.</p> <p>By 2005, approach local conservation organizations to encourage "adoption" of the Wallkill River or Shawangunk Grassland refuges. These groups serve as advocates for the Refuges and help undertake projects on the Refuges.</p> <p>Improve relations with town and local businesses through outreach and education.</p> <p>Speak about the refuge and its mission to civic organizations throughout the Wallkill River watershed.</p> <p>Increase visibility of Service and refuge lands (e.g. boundary posting, participation in community events).</p> <p>Develop a refuge newsletter.</p> <p>Host events for International Migratory Bird Day and National Wildlife Refuge System Week.</p>	<p>In addition to Alternative B:</p> <p>By 2005, organize a meeting of volunteers and local residents and business people to determine the level of interest and/or motivation to establish a "Friends of Wallkill Refuge" group and a "Friends of Shawangunk Grasslands Refuge" group . If there is interest, organize a mentoring program to initiate Friends Group.</p>	<p>Same as Alternative A.</p>

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